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# Micro-*Switch*/5

## 5 Port 10/100Mbps Fast Ethernet Switch
(Auto MDI/MDIX)

FEP-32005T-1

# USER'S MANUAL

# Package Contents

Package contents include the following:

- **Micro-Switch/5**; 5-Port 10/100 Switch (Auto MDI/MDIX)
- DC power adapter
- Four (4) adhesive-backed rubber feet
- User's manual
- Warranty card

**Micro-Switch/5**
*5-Port Switch*

**User's Guide**

**Rubber Feet**

**Power Adapter**

Figure 1. Contents of package.

IMPORTANT: If any piece is missing or damaged, please contact your local dealer or reseller for service.

## *For Your Records*

Product Name: _____

_____

Serial Number: _____

Date of Purchase: _____

Purchased from: _____

Notes: _____

_____

_____



## *Performance Specifications*

| | |
|---|---|
| Transmission Method: | Store and forward |
| MAC address table: | 1K-entry MAC address table |
| Maximum Forwarding Rate: *(64byte packets)* | 14,880 pps /10Base-T<br>148,800 pps /100Base-TX |
| Maximum Filtering Rate: *(64byte packets)* | 14,880 pps /10Base-T<br>148,800 pps/100Base-TX |
| Flow control: | Back-pressure (half-duplex)<br>Pause frame (full-duplex) |
| Duplex mode: | Supports both Half-duplex and Full-duplex mode |

## *Physical & Environmental Specification*

| | |
|---|---|
| Power Supply: | External power adapter, DC 9V, 700mA |
| Dimensions: | 111mm x 70mm x 19mm (LxWxH)<br>4.37" x 2.77" x 0.76" (LxWxH) |
| Operating temperature: | 0˚C to 45˚C (32˚F to 113˚F) |
| Storage temperature: | -40˚C to 70˚C (-22˚F to 140˚F) |
| Humidity: | 10% to 90% (non-conditioning) |
| EMI: | FCC Class B, CE mark |
| Safety: | UL, cUL |

FCC Statement

This equipment has been tested and found to comply with the limits for a class B device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at the user's expense.

# Troubleshooting

The Switch can be easily monitored through panel indicators to assist in identifying problems. This section describes common problems you may encounter and possible solutions.

## ■ *Power*

If the power indicator does not light when the power cord is plugged in, you may have a problem with the power outlet or cord. However, if the power LED goes off after running for a while, check for loose power connections, power losses or surges at the power outlet. Turn off power, wait 30 seconds and turn power on again. If problem is still not resolved, call for dealer's assistance.

## ■ *Cabling*

Verify that the cabling type is correct. Make sure all cable connectors are securely seated in the required ports. Use only standard Unshielded Twisted-Pair (UTP), Category 3, 4, 5, or 5e cables. Use only Category 5 or 5e when connecting with Fast Ethernet. Make certain the maximum distance between the Switch and what it's connected to is 100 meters or less.

# Product Specifications

## *General Specifications*

| | |
|---|---|
| Standard Compliance: | IEEE 802.3 10Base-T Ethernet<br>IEEE 802.3u 100Base-TX Fast Ethernet<br>IEEE 802.3x Flow Control |
| Number of Ports: | (5) 10/100Mbps Auto-sensing RJ-45 ports |
| Data Transfer Rate: | Ethernet: 10Mbps (half-duplex)<br>20Mbps (full-duplex)<br>Fast Ethernet: 100Mbps (half-duplex)<br>200Mbps (full-duplex) |
| Necessary Cables: | UTP (Unshielded Twisted Pair) Cable |
| Topology: | Star |
| LED Indicators: | Per Device: Power<br>Per Port: LINK/ACT, FDX/COL |



# Introduction

The 5 Port **Micro-Switch/5** (Auto MDI/MDIX) is a palm-sized Fast Ethernet switch that provides wire-speed, a Fast Ethernet switching function which allows high-performance, low-cost connections to Full-duplex, Half-duplex, 10Mbps and 100Mbps Ethernet networks. This Switch provides five auto-sensing 10/100Mbps Ethernet RJ-45 ports which automatically detect the speed of the devices that you plug into them. This switching function allows 10Mbps, 100Mbps, Full-duplex and Half-duplex devices to communicate on the same network without having to replace any infrastructure.

# Key Features

- Automatic MDI/MDIX crossover for all ports
- 5 auto-sensing 10/100 Fast Ethernet RJ-45 ports
- N-Way Auto-negotiation for 10/100Mbps transmissions
- Space-saving compact size
- Store-and-Forward switching architecture
- Auto-detect of full/half-duplex mode in all ports
- Back-pressure for Half-duplex. Pause frame for Full-duplex
- Plug-and-Play configuration auto address learning
- Embedded 1K-entry MAC address table
- 1MB frame buffer
- LED indicators for Power, FDX/COL, and Link/activity
- Compliant with IEEE 802.3, 802.3u and 802.3x standards

5 Year Product Warranty

For full coverage of your warranty, be sure to register your product using the enclosed registration card.

# Hardware Description

## *The Front Panel*

The front panel consists of LED Indicators.

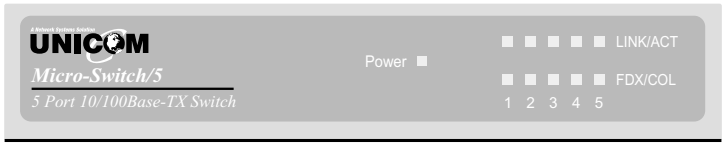


Figure 2. Front Panel view of **Micro-Switch/5**

## *LEDs*

Per Device: Power
Per Port: LINK/ACT (Link/Activity)
FDX/COL (Full Duplex/Collision)

## *The Rear Panel*

The rear panel view of the 5-Port Switch ( Auto MDI/MDIX ) consists of a DC power connector and 5 auto-sensing ports.

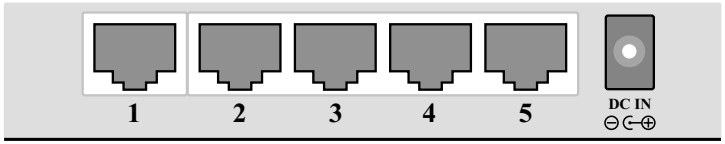


Figure 3. Rear panel view of the **Micro-Switch/5**

■ RJ-45 Ports ( Auto MDI/MDIX ):

5 ports of 10/100 N-way auto-sensing for 10Base-T or 100Base-TX connections. [ In general, MDI means connecting to another Hub or Switch while MDIX means connecting to a workstation or PC. Therefore, Auto MDI/MDIX means that you can connect to another Switch or workstation without changing pin-to-pin or crossover cabling. ]



■ DC Power Connector

Plug the female connector into the switch and the male connector into a power outlet. **Supports input voltages 9 VDC at 700 mA.**

## *LED-Indicators*

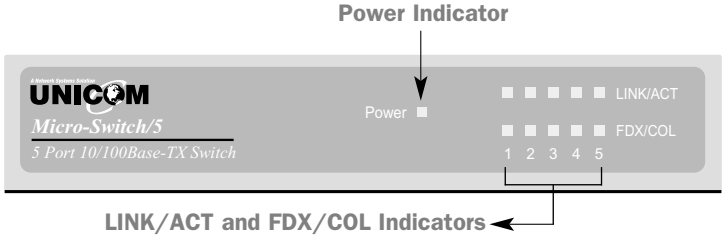


Figure 4. Front panel view of LED indications

Table lists each the LED and its function.

| LED | Status | Color | Description |
|---|---|---|---|
| Power | On | Green | The switch is supplied with suitable power. |
| FDX/COL | On | Orange | The port is connecting in Full Duplex |
| | Blinks | | A packet collision ocurred at this port. In half-duplex mode, collisions may occur more often than in full-duplex mode. |
| | Off | | The port is operating in Half Duplex mode. |
| LINK/ACT | On | Green | The port is connecting at 10Mbps. |
| | Blinks | | The port is receiving or transmitting data. |
| | Off | | The port is *not* linked successfully with the device. |